



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

RBE350A93-3302-02

Job Sheet 188417



Part No: RBE350A93-3302-02

Job Qty: 6 pcs

Part Name: Tail Rotor Hub Lock Wrench



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 1/9/19

Job Tracking No:

Due Date: 1/31/19

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG RBE350A93-3302-02 REV:11 IPP REV A 18.01.30 NEW ISSUE RQ VERIFIED BY DP

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Small Fab - 1	6 pcs	1/31/19		0.08	0.40	Small Fab - 1		MLC
							Small Fab - 2		
							Small Fab - 3		
							Small Fab - 4		
							Small Fab - 5		
							Small Fab - 6		
							Small Fab - 7		
110	QC 5	6 pcs	1/31/19		0.00	0.00	QC 5 - 10		DAS 58 FEB 11 2019 9-89
							QC 5 - 12		
							QC 5 - 17		
							QC 5 - 18		
							QC 5 - 19		
							QC 5 - 22		
							QC 5 - 24		
							QC 5 - 3		
							QC 5 - 38		
							QC 5 - 42		
							QC 5 - 43		
							QC 5 - 49		
							QC 5 - 51		
							QC 5 - 58		
							QC 5 - 68		
							QC 5 - 9		
							QC 5 - 50		
							QC 5 - 30		
130	Packaging 3-1 - Stock - B4B	6 pcs	1/31/19		0.00	0.00	Packaging 3 - 1 - B4B		DAS 28 9-89
							Packaging 3 - 2 - B4B		
							Packaging 3 - 3 - B4B		
							Packaging 3 - 4 - B4B		
							Packaging 3 - 5 - B4B		
							Packaging 3 - 6 - B4B		



Container No: S152598



Part: RBE350A93 - 3302 - 02

Job No: 188417

Serial No/Batch: S152598

Revision: 11

Inspector:

Exp Date:

Instructions:

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Date: 02/11/19

Packaging 3 - 7 - B4B	
Packaging 3 - 8 - B4B	
Packaging 3 - 9 - B4B	
Packaging 3 - 10 - B4B	
Packaging 3 - 11 - B4B	
Packaging 3 - 12 - B4B	
Packaging 3 - 13 - B4B	
Packaging 3 - 14 - B4B	
Packaging 3 - 15 - B4B	
Packaging 3 - 16 - B4B	
Packaging 3 - 17 - B4B	
Packaging 3 - 18 - B4B	
Packaging 3 - 19 - B4B	
Packaging 3 - 20 - B4B	
Packaging 3 - 21 - B4B	
Packaging 3 - 22 - B4B	
Packaging 3 - 23 - B4B	
Packaging 3 - 24 - B4B	
Packaging 3 - 25 - B4B	
Packaging 3 - 26 - B4B	
Packaging 3 - 27 - B4B	
Packaging 3 - 28 - B4B	
Packaging 3 - 29 - B4B	
Packaging 3 - 30 - B4B	
Packaging 3 - 31 - B4B	
Packaging 3 - 32 - B4B	
Packaging 3 - 33 - B4B	
Packaging 3 - 34 - B4B	
Packaging 3 - 35 - B4B	
Packaging 3 - 36 - B4B	

140 QC 21 - FG	6 pcs	1/31/19	0.00 0.00	QC 21 - FG - 21
				QC 21 - FG - 70

DAS
21
2019

FEB 12 2019

Part Op 100 - -Small Fab - Assemble
 Descriptions: 110 - QC5- Inspect part completeness to step on W/O
 130 - Identify as per dwg & Stock Location:
 140 - QC21- Final Inspection - Work Order Release

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
3896T31	Ferule 1/16 X 3/8" - Aluminum	24 Ea (4 ea)	100-Small Fab - 1	5038398 TX51
90174A113	Retaining Pin	12 Ea (2 ea)	100-Small Fab - 1	5050272
90177A218	Split Ring	24 Ea (4 ea)	100-Small Fab - 1	5084070
90272A189	Machine Screw	6 Ea (1 ea)	100-Small Fab - 1	5039348
94975A162	Quick Release Pin	6 Ea (1 ea)	100-Small Fab - 1	5145193
CL-2-C	Lanyard Wire	9.9960 ft (1.666 ea)	100-Small Fab - 1	5093863
RBE350A93-3302-02-1	Handle	6 pcs (1 ea)	100-Small Fab - 1	5113709
RBE350A93-3302-02-3	Pin	12 pcs (2 ea)	100-Small Fab - 1	5101665
RBE350A93-3302-02-5	Extension Handle	6 pcs (1 ea)	100-Small Fab - 1	5107992

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Small Fab - 1	3896T31	24	618	0
	90174A113	12	19	0
	90177A218	24	112	0
	90272A189	6	174	0
	94975A162	6	18	0
	CL-2-C	10	493	0
	RBE350A93-3302-02-1	6	8	0
	RBE350A93-3302-02-3	12	14	0
	RBE350A93-3302-02-5	6	1	0

Part Specifications
Specifications could not be found.

Plex 1/23/19 12:06 PM Dart.Hadley.Shannon



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

RBE350A93-3302-02

Job Sheet 188417



Part No: RBE350A93-3302-02

Job Qty: 6 ea

Part Name: Tail Rotor Hub Lock Wrench



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 1/9/19

Job Tracking No:

Due Date: 1/31/19

Created By: Marie Lajeunesse

Type: ~~SOLD~~ *SLH*

Description:

Note: DWG RBE350A93-3302-02 REV:11 IPP REV A 18.01.30 NEW ISSUE RQ VERIFIED BY DP

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	6 Ea	1/31/19	1/31/19	0.00	0.00	Start Up Small Fab-4		
100	Small Fab	6 pcs	1/31/19	1/31/19	0.08	0.40	Small Fab-9		
110	QC	6 pcs	1/31/19	1/31/19	0.00	0.00	QC5		
130	Packaging	6 pcs	1/31/19	1/31/19	0.00	0.00	Packaging3-2		
140	QC21-FG	6 Ea	1/31/19	1/31/19	0.00	0.00	QC21		

Part Op 100 - Assemble

Descriptions: 130 - Identify and Stock

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
3896T31	Ferule 1/16 X 3/8" - Aluminum	24 Ea (4 ea)	90-Start up Operation	
90174A113	Retaining Pin	12 Ea (2 ea)	90-Start up Operation	
90177A218	Split Ring	24 Ea (4 ea)	90-Start up Operation	
90272A189	Machine Screw	6 Ea (1 ea)	90-Start up Operation	
94975A162	Quick Release Pin	6 Ea (1 ea)	90-Start up Operation	
CL-2-C	Lanyard Wire	9.9960 ft (1.666 ea)	90-Start up Operation	
RBE350A93-3302-02-1	Handle	6 pcs (1 ea)	90-Start up Operation	
RBE350A93-3302-02-3	Pin	12 pcs (2 ea)	90-Start up Operation	
RBE350A93-3302-02-5	Extension Handle	6 pcs (1 ea)	90-Start up Operation	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	3896T31	24	636	0
	90174A113	12	19	0
	90177A218	24	124	0
	90272A189	6	174	0
	94975A162	6	6	0
	CL-2-C	10	490	0
	RBE350A93-3302-02-1	6	8	0
	RBE350A93-3302-02-3	12	14	0
	RBE350A93-3302-02-5	6	1	0

Part Specifications

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QS1042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

Specifications could not be found.

Plex 1/9/19 12:43 PM Dart.lajeunesse.marie

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

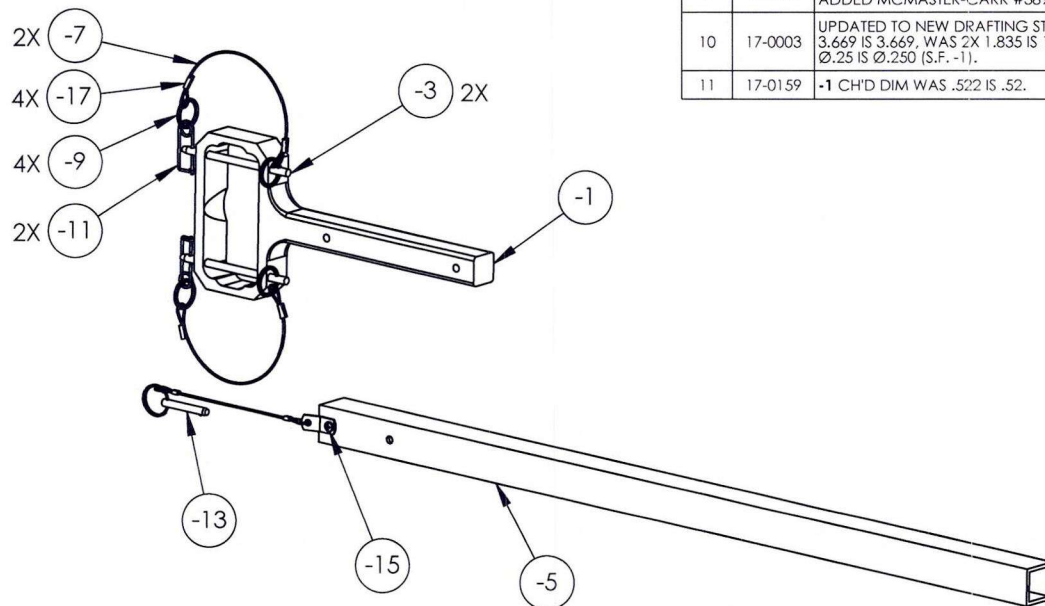
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabelled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

This drawing, specifications, and concepts contained here in are the sole property of Dart Aerospace, and may not be reproduced or used in any fashion without the prior written permission of Dart Aerospace Eugene, OR.

REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-1 CH'D INSIDE ANGLED RADIUS FROM R.75 TO R.375, CH'D DIM WAS 1.122 IS 1.	12/5/2008	WP	DW
2		-1 ADDED Ø.250 HOLE. -5 ADDED #8-32 HOLE & Ø.250 HOLE.	3/18/2009	WP	DW
3		-1 ADDED 1 INCH SQUARE DIM, CH'D DIM TO 2.309. -5 CH'D OD & ID DIMS.	4/29/09	RJC	
4		-5 DELETED ENGRAVE NOTE.	6/1/2009	RJC	
5		-1 ADDED TOLERANCE 1.00 - .98 TO HANDLE. -3 SHORTENED PIN BY 3/8 ON BOTH ENDS. -5 EXTENDED FROM 16.1 TO 30.0, MOVED PIN HOLE FROM 1.25 TO 3.00, CH'D MATERIAL WAS STEEL IS ALUMINUM.	10/6/2009	WP	DW
6		-1 CH'D TOOLING HOLE WAS Ø.266 IS Ø.250, ADDED ENGRAVE NOTE. -5 ADDED ENGRAVE, CH'D TOOLING HOLE WAS Ø.266 IS Ø.250.	12/16/2010	RJC	RW
6A		-5 CH'D TUBE WALL THICKNESS WAS .105 IS .125.	5/10/2012	RJC	GEB2
7		-1 CH'D DIM WAS Ø.250 IS Ø.250 +.005 -.000.	4/18/2013	CFS	JG
8A		CORRECTED T/N WSS RBEA93-3302-02 IS RBE350A93-3302-02.	11/5/2013	RJC	RW
9	15-0131	-7 CH'D WAS MCMMASTER-CARR #30345T15 IS CARR LANE #CL-2-C. -9 CH'D QTY. WAS 2 IS 4. -17 ADDED MCMMASTER-CARR #3896T31.	6/12/2015	RJC	JAG
10	17-0003	UPDATED TO NEW DRAFTING STANDARD. -1 CH'D DIM WAS 3.071 IS 3.07, WAS 5.315 IS 5.32, WAS 2X 3.669 IS 3.669, WAS 2X 1.835 IS 1.835, WAS 4X .190 IS 2X .190. ADDED DIM .522. -3 CH'D DIM WAS Ø.25 IS Ø.250 (S.F. -1).	2/28/2017	RJC	SM
11	17-0159	-1 CH'D DIM WAS .522 IS .52.	6/21/2017	RJC	JAG



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 188412MLS 19-01-09

NOTE:
ORIGINAL No. REF: RBEA93-3302-2 = 350A93-3302-02.

ASSY QTY	ASSY QTY	B/O	Part #	UNIT QTY	Description	Material	B/O INFORMATION OR SPECIFICATIONS	PG.
			-1	1	HANDLE	6061		2
			-3	2	PIN	S.S.		3
			-5	1	EXTENSION HANDLE	ALUMINUM SQ. TUBE		4
		B/O	-7	2	LANYARD	COATED STEEL	Ø1/16 X 8 7X7 CABLE (CARR LANE #CL-2-C)	1
		B/O	-9	4	SPLIT RING	STEEL	Ø1 O.D. X 1/8 (MCMMASTER-CARR #90177A218)	1
		B/O	-11	2	WIRE LOCKING PIN	STEEL	Ø1/16 X 1-1/16 USABLE (MCMMASTER-CARR #90174A113)	1
		B/O	-13	1	QUICK RELEASE PIN W/LANYARD	S.S.	Ø1/4 X 1.3 USABLE (MCMMASTER-CARR #94975A162)	1
		B/O	-15	1	MACHINE SCREW	STEEL	#8-32 UNC-2A (MCMMASTER-CARR #90272A189)	1
		B/O	-17	4	FERRULE	ALUMINUM	Ø1/16 X 3/8 (MCMMASTER-CARR #3896T31)	1

DART AEROSPACE	
TITLE T/R HUB LOCK WRENCH	
DWG NO. RBE350A93-3302-02	REV 11
MAT'L HEAT TREAT FINISH SPEC	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .005 FRACTIONS ± 1/8 .XX ± .01 ANGLES ± 5° .X ± .1 SURFACES = 125/	
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009	
USED ON MODEL EUROCOPTER 350/355	
DRAWN BY: PERRITT CHECKED: DUERFELDT OPSS APPR: ANDERSON QA APPR: LINDSAY APPROVED: MACKOVJAK	SCALE 1:6 DATE 10/20/2008 SHEET 1 OF 4